

# Notice of Allowability

Application No.

09/836,490

Examiner

Jason Proctor

Applicant(s)

MAKER, BRADLEY N.

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Response filed 8 March 2007.
2. ☒ The allowed claim(s) is/are 1,4-41 and 43-46.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT**  
**AND**  
**REASONS FOR ALLOWANCE**

Claims 1, 4-41, and 43-47 were rejected in the Office Action of 18 October 2006. Applicants' submission filed on 8 March 2007 has amended claims 1, 14, 25, 36-41, and 43-47. Claims 1, 4-41, and 43-47 are submitted for reconsideration.

Claim 47 is cancelled by Examiner's amendment.

Claims 1, 4-41, and 43-46 are allowed.

***Examiner's Amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Peter Mikhail (46,930) on 22 May 2007.

The application has been amended as follows: Claim 47 is cancelled.

***Response to Arguments – Claim Objections***

Applicants' arguments regarding the previous objections to the claims have been fully considered and found persuasive. The previous objections have been withdrawn.

***Response to Arguments – 35 USC § 101***

Applicants' arguments regarding the previous rejections under 35 U.S.C. § 101 have been fully considered and found persuasive. The previous rejections have been withdrawn.

***Response to Arguments – 35 USC § 102***

The previous rejection of claim 47 under 35 U.S.C. § 102 is rendered moot in view of the cancellation of claim 47.

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance: A thorough search of the prior art reveals methods of performing finite element simulations, including switching from an explicit method to an implicit method (LS-DYNA KEYWORD USER'S MANUAL, Version 950, May 1999) to perform a "springback analysis" upon completion of an explicit method. However, these teachings are restricted to performing a "springback analysis" and therefore switch only once.

The prior art references, alone or in combination, neither disclose nor teach:

(Claims 1 and 14) Automatically switching between an implicit method of analyzing the effect of the load or other influence and an explicit method of analyzing the effect of the load or other influence two or more times during the finite element simulation

(Claim 25) Automatically switching between an implicit finite element simulation method and an explicit finite element simulation method two or more times during the finite element simulation.

(Claim 36) Instructions for monitoring the internal energy of the model during iterations using the implicit method and automatically switching from the implicit method to the explicit method if the internal energy exceeds a predetermined threshold number.

In combination with the other claimed elements.

It is for these reasons that Applicants' invention defines over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

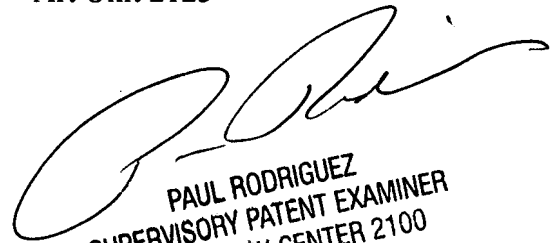
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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